

IN THE CLAIMS:

Claim 1 (currently amended): A circuit to determine a velocity of a coil to which a driving current is applied in a magnetic field, comprising:

a circuit to terminate the driving current in said coil;

a circuit to apply a current to said same coil to create a magnetic field to oppose eddy currents established in structures adjacent said coil by said driving current; and

a circuit for measuring a BEMF in said coil after said current has been applied to oppose said eddy currents to determine said velocity.

Claim 2 (currently amended): The circuit of claim 1 wherein said driving current is in a first direction in said coil, and wherein said circuit to apply a current to said same coil applies a current in a direction opposite said first direction.

Claim 3 (original): The circuit of claim 1 wherein said circuit to apply a current to said coil applies a current for a time directly related to a time that a flyback current appears in said coil above a predetermined magnitude after said driving current has been terminated.

Claim 4 (original): The circuit of claim 1 wherein said circuit to apply a current to said coil applies a current for a time directly related to a magnitude of the original current command after said driving current has been terminated.

Claim 5 (original): The circuit of claim 1 wherein said circuit to apply a current to said coil applies a current for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.

Claim 6 (previously cancelled)

Claim 7 (currently amended): A circuit to determine a BEMF voltage of a VCM coil after termination of a driving current in a first current direction in said coil, comprising:

a circuit for activating selected VCM coil driver transistors to apply a current to said coil in a direction opposite said first current direction to generate a magnetic field to oppose eddy currents established in structures adjacent said coil by said driving current.

Claim 8 (currently amended): The circuit of claim 7 wherein said circuit for activating selected VCM coil driver transistors applies said current to said same coil for a time directly related to a time that a flyback current appears in said coil above a predetermined magnitude after said driving current in said first direction has been terminated.

Claim 9 (currently amended): The circuit of claim 7 wherein said circuit for activating selected VCM coil driver transistors applies said current to said same coil for a time directly related to a magnitude of the original current command after said driving current in said first direction has been terminated.

Claim 10 (original): The circuit of claim 7 wherein said circuit for activating selected VCM coil driver transistors applies said current to said coil for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.

Claim 11 (previously cancelled)

Claim 12 (currently amended): A circuit for use in determining a velocity of a head assembly of a VCM after termination of a driving current in a coil of said VCM, comprising:

a circuit for activating selected VCM coil driver transistors to apply a current to said same coil of said VCM to create a magnetic field that opposes eddy currents established in structures adjacent said coil by said driving current.

Claim 13 (original): The circuit of claim 12 wherein said driving current is in a first current direction and wherein said circuit for activating selected VCM coil driver transistors applies a current to said coil in a direction opposite said first current direction.

Claim 14 (currently amended): The circuit of claim 12 wherein said circuit for activating selected VCM coil driver transistors applies a current to said same coil for a time directly related to a time that a flyback current appears in said coil above a predetermined magnitude after said driving current has been terminated.

Claim 15 (currently amended): The circuit of claim 12 wherein said circuit for activating selected VCM coil driver transistors applies a current to said same coil for a time directly related to a magnitude of the original current command after said driving current has been terminated.

Claim 16 (currently amended): The circuit of claim 12 wherein said circuit for activating selected VCM coil driver transistors applies a current to said same coil for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.

Claim 17 (previously cancelled)

Claim 18 (currently amended): A method for determining a velocity of a coil to which a driving current is applied in a magnetic field, comprising:

terminating said driving current;

allowing a flyback current in said coil to reduce to below a predetermined magnitude;

applying a current to said same coil of magnitude and direction to cancel eddy currents in structures adjacent said coil; and

measuring a BEMF in said coil, wherein a magnitude of said BEMF is directly related to the velocity of said same coil.

Claim 19 (original): The method of claim 18 wherein said applying a current to said coil comprises applying a current to said coil a time directly related to a magnitude of the original current command.

Claim 20 (currently amended): The method of claim 18 wherein said applying a current to said same coil comprises applying a current to said coil in a direction opposite said driving current.

Claim 21 (currently amended): The method of claim 18 wherein said applying a current to said same coil comprises applying a current to said coil for a time directly related to a time for said flyback current to reduce to below a predetermined magnitude.

Claim 22 (currently amended): The method of claim 18 wherein said applying a current to said same coil comprises applying a current to said coil a time directly related to a magnitude of said driving current.

Claim 23 (currently amended): A method for determining a BEMF voltage of a coil of a VCM after termination of a driving current in said coil, comprising:  
determining when said driving current has been terminated; and  
activating selected VCM coil driver transistors to apply a current to said same coil to create a magnetic field to oppose eddy currents established in structures adjacent said coil by said driving current.

Claim 24 (currently amended): The method of claim 23 wherein said driving current is in a first current direction, and wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors to create a current in said same coil in a direction opposite to said first current direction.

Claim 25 (original): The method of claim 23 wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors for a time directly related to a magnitude of the original current command voltage when said driving current is terminated.

Claim 26 (original): The method of claim 23 wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors for a time directly related to a time that said flyback current is above a predetermined magnitude after said driving current has been terminated.

Claim 27 (original): The method of claim 23 wherein said activating selected VCM coil driver transistors comprises activating selected VCM coil driver transistors for a time directly related to a magnitude of said driving current prior to when said driving current has been terminated.